

**ANALYSIS OF HEAVY ION LOSS AFTER STRIPPING**

**BOOSTER TECHNICAL NOTE  
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## LOCATION OF THE STRIPPING LOSS OF THE BOOSTER GOLD ION

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A concern was raised about the stripping loss for the very heavy ions accelerated in the Booster. Because about 50% of the gold accelerated in the Booster will not be fully stripped by the stripper located in the BTA line, the effect of those ions on the radiation level outside of the tunnel may be a concern.

The results of an experiment done at Berkeley\* indicate that 350 MeV per nucleon gold ions will have the following equilibrium charge distribution after going through a stripping target.

<u>Charge</u>	<u>Fraction (%)</u>
79	50
78	34
77	8
< 76	8

As shown in the figure, the 8% of the ions with a charge less than or equal to 76 will be lost inside the second  $16^\circ$  bending magnet, the 8% with charge 77 hit the vacuum pipe around the quadrupole immediately upstream of the shielding wall between the Booster and the AGS, and the 34% with charge 78 will scrape along the vacuum pipe which is located inside the shielding wall.

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\* P. Theiberger, Private communication.

